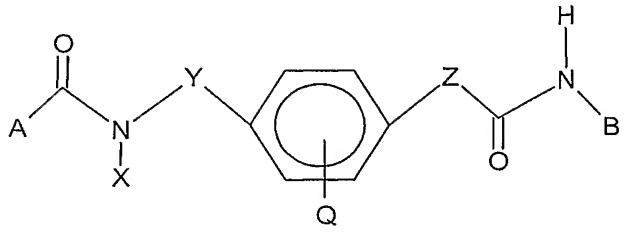
WHAT IS CLAIMED IS:

1. A histone deacetylase inhibitor having the formula:



wherein:

X is chosen from H and CH_3;

Y is $(CH_2)_n$ wherein n is 0-2;

Z is chosen from $(CH_2)_m$ wherein m is 0-3 and $(CH)_2$;

A is a hydrocarbyl group;

B is *o*-aminophenyl or hydroxyl group; and

Q is a halogen, hydrogen, or methyl.

2. The inhibitor according to claim 1, wherein A comprises an aliphatic group.

3. The inhibitor according to claim 2, wherein the aliphatic group is branched.

4. The inhibitor according to claim 1, wherein A comprises an aromatic group.

5. The inhibitor according to claim 4, wherein A comprises a substituted aromatic group.

6. The inhibitor according to claim 1, wherein B is *o*-aminophenyl.

7. The inhibitor according to claim 1, wherein B is hydroxyl.

8. The inhibitor according to claim 1, wherein n is 0, A comprises an aromatic group, B is hydroxy, and Q is hydrogen.

9. The inhibitor according to claim 1, wherein the inhibitor is chosen from N-(2-Amino-phenyl)-4-[(2-propyl-pentanoylamino)-methy1]-benzamide; N-Hydroxy-4-[(2-propyl-pentanoylamino)-methy1]-benzamide; N-(2-Amino-phenyl)-4-(2-propyl-pentanoylamino)-benzamide; N-Hydroxy-4-(2-propyl-pentanoylamino)-benzamide; 2-

Propyl-pentanoic acid {4-[2-amino-phenylcarbamoyl)-methyl]-phenyl}-amide; 2-Propyl-pentanoic acid (4-hydroxycarbamoyl-methyl-phenyl)-amide; 2-Propyl-pentanoic acid {4-[2-amino-phenylcarbamoyl)-ethyl]-phenyl}-amide; 2-Propyl-pentanoic acid [4-(2-hydroxycarbamoyl-ethyl)-phenyl]-amide; 2-Propyl-pentanoic acid {4-2-(2-amino-phenylcarbamoyl)-vinyl]-phenyl}-amide; and 2-Propyl-pentanoic acid [4-(2-hydroxycarbamoyl-vinyl)-phenyl]-amide.

10. The inhibitor according to claim 1, wherein the inhibitor is chosen from N-(2-Amino-phenyl)-4-(butyrylamino-methyl)-benzamide; N-(2-Amino-phenyl)-4-(phenylacetylamino-methyl)-benzamide; N-(2-Amino-phenyl)-4-[(4-phenyl-butyrylamino-methyl]-benzamide; 4-(Butyrylamino-methyl)-N-hydroxy-benzamide; N-hydroxy-4-(phenylacetylamino-methyl)-benzamide; N-hydroxy-4-[(4-phenyl-butyrylamino)-methyl]-benzamide; 4-Butyrylamino-N-hydroxy-benzamide; N-hydroxy-4-phenylacetylamino-benzamide; N-hydroxy-4-(4-phenylbutyrylamino)-benzamide; and N-[4-(2-Hydroxycarbamoyl-ethyl)-phenyl]-butyramide.

11. The inhibitor according to claim 1, wherein the inhibitor is chosen from N-hydroxy-3-(4-phenylacetylamino-phenyl)-propionamide; N-[4-(2-Hydroxycarbamoyl-ethyl)-phenyl]-4-phenyl-butyramide; N-(2-Amino-phenyl)-4-[(2-phenyl-butyrylamino-methyl]-benzamide; N-(2-Amino-phenyl)-4-[(3-phenyl-butyrylamino-methyl]-benzamide; N-hydroxy-4-(2-phenylbutyrylamino)-benzamide; N-hydroxy-4-(3-phenylbutyrylamino)-benzamide; N-[4-(2-Hydroxycarbamoyl-ethyl)-phenyl]-2-phenyl-butyramide; N-[4-(2-Hydroxycarbamoyl-ethyl)-phenyl]-3-phenyl-butyramide; N-hydroxy-4-[(2-phenyl-butyrylamino)-methyl]-benzamide; and N-hydroxy-4-[(3-phenyl-butyrylamino)-methyl]-benzamide.

12. The inhibitor according to claim 1, wherein the inhibitor is chosen from 4-Benzoylamino-N-hydroxy-benzamide; 4-(4-methyl)-Benzoylamino-N-hydroxy-benzamide; 4-(4-chloro)-Benzoylamino-N-hydroxy-benzamide; 4-(4-bromo)-

Benzoylamino-N-hydroxy-benzamide; 4-(4-tert-butyl)-Benzoylamino-N-hydroxy-benzamide; 4-(4-phenyl)-Benzoylamino-N-hydroxy-benzamide; 4-(4-methoxyl)-Benzoylamino-N-hydroxy-benzamide; 4-(4-trifluoromethyl)-Benzoylamino-N-hydroxy-benzamide; 4-(4-nitro)-Benzoylamino-N-hydroxy-benzamide; and Pyridine-2-carboxylic acid (4-hydroxycarbamoyl-phenyl)-amide.

13. The inhibitor according to claim 1, wherein the inhibitor is chosen from N-hydroxy-4-(2-methyl-2-phenyl-propionylamino)-benzamide; N-hydroxy-4-(3-methyl-2-phenyl-butyrylamino)-benzamide; N-hydroxy-4-(3-phenyl-propionylamino)-benzamide; 4-(2,2-Dimethyl-4-phenyl-butyrylamino)-N-hydroxy-benzamide; N-hydroxy-4-[methyl-(4-phenyl-butyryl)-amino]-benzamide; N-hydroxy-4-(2-phenyl-propionylamino)-benzamide; N-hydroxy-4-(2-methoxy-2-phenyl-acetylamino)-benzamide; 4-Diphenylacetylamino-N-hydroxy-benzamide; N-hydroxy-4-[2-(4-isobutyl-phenyl)-propionylamino]-benzamide; and N-(2-Amino-phenyl)-4-phenylacetylamino-benzamide.

14. The inhibitor according to claim 1, wherein the inhibitor is chosen from N-(2-Amino-phenyl)-4-(5-phenyl-pentanoylamino)-benzamide; N-(2-Amino-phenyl)-4-(2-phenyl-butyrylamino)-benzamide; N-(2-Amino-phenyl)-4-(2,2-dimethyl-4-phenyl-butyrylamino)-benzamide; N-(2-Amino-phenyl)-4-(3-phenyl-propionylamino)-benzamide; N-(2-Amino-phenyl)-4-(4-phenyl-butyrylamino)-benzamide; N-(2-Amino-phenyl)-4-(3-phenyl-butyrylamino)-benzamide; N-(2-Amino-phenyl)-4-(3-methyl-2-phenyl-butyrylamino)-benzamide; N-(2-Amino-phenyl)-4-(2-methyl-2-phenyl-propionylamino)-benzamide; N-(2-Amino-phenyl)-4-[2-(4-isobutyl-phenyl)-propionylamino]-benzamide; and N-hydroxy-4-[2-(S)-phenylbutyrylamino]-benzamide.

15. The inhibitor according to claim 1, wherein the inhibitor is chosen from N-hydroxy-4-[2-(R)-phenylbutyrylamino]-benzamide; N-[4-(2-Hydroxycarbamoyl-ethyl)-phenyl]-2-(S)-phenyl-butyramide; N-[4-(2-Hydroxycarbamoyl-ethyl)-phenyl]-2-(R)-phenyl-butyramide; N-hydroxy-4-(3-(S)-phenylbutyrylamino)-benzamide; N-hydroxy-4-

(3-(R)-phenylbutyrylamino)-benzamide; N-hydroxy-4-[3-(S)-phenylbutyrylamino]-benzamide; and N-hydroxy-4-[3-(R)-phenylbutyrylamino]-benzamide.

16. The inhibitor according to claim 1, wherein the inhibitor is an ester or salt.

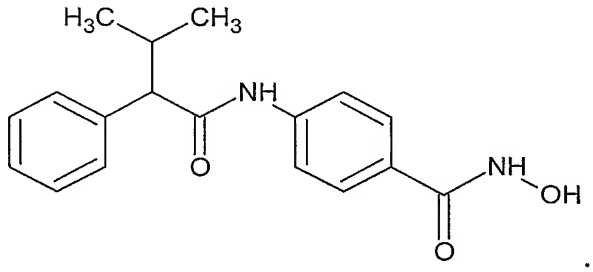
17. A pharmaceutical composition comprising the inhibitor according to claim 1, and at least one pharmaceutically acceptable excipient.

18. A method of inhibiting neoplastic cell proliferation in an animal comprising administering a therapeutically effective amount of at least one inhibitor according to claim 1.

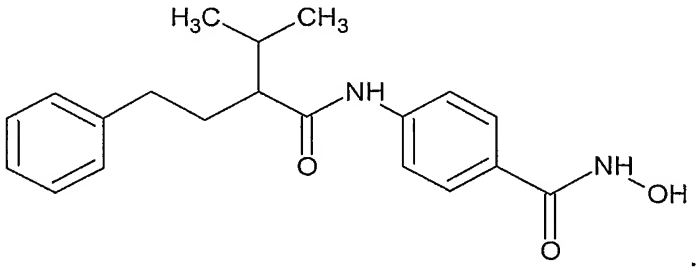
19. The method according to claim 18, wherein the animal is a human.

20. The inhibitor according to claim 8, wherein m=0 and X=H.

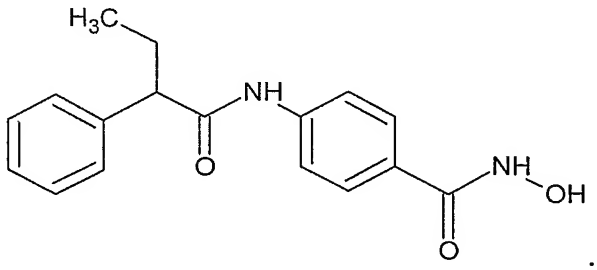
21. The inhibitor according to claim 20, wherein the compound is:



22. The inhibitor according to claim 20, wherein the compound is:

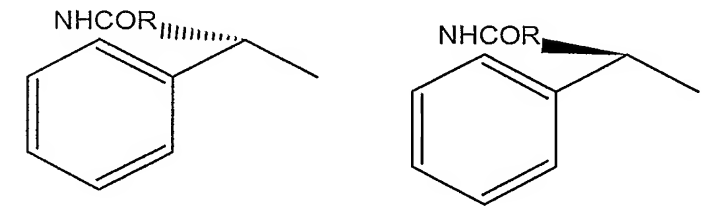


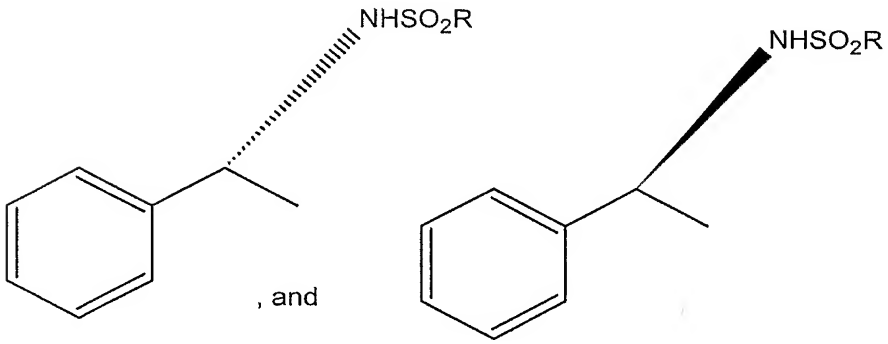
23. The inhibitor according to claim 20, wherein the compound is:



24. A composition comprising the inhibitor according to claim 21, wherein the composition is enriched in the S-stereoisomer as compared to the R-stereoisomer.

25. The inhibitor according to claim 1, wherein X=H and A is chosen from:





wherein R comprises a branched or unbranched, substituted or unsubstituted, saturated or unsaturated, aliphatic or aromatic group.